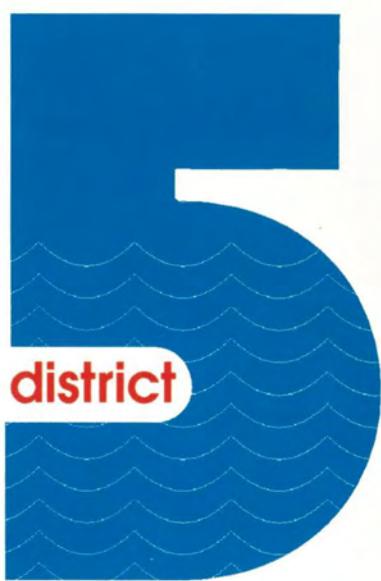
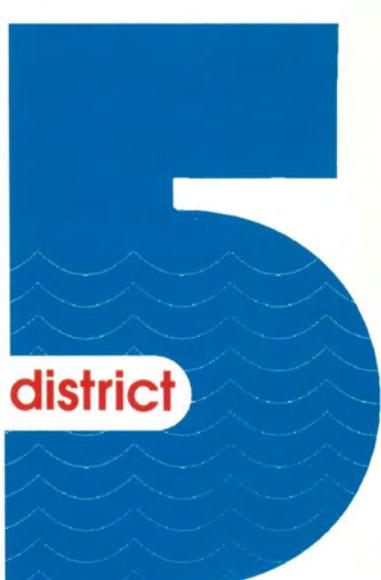


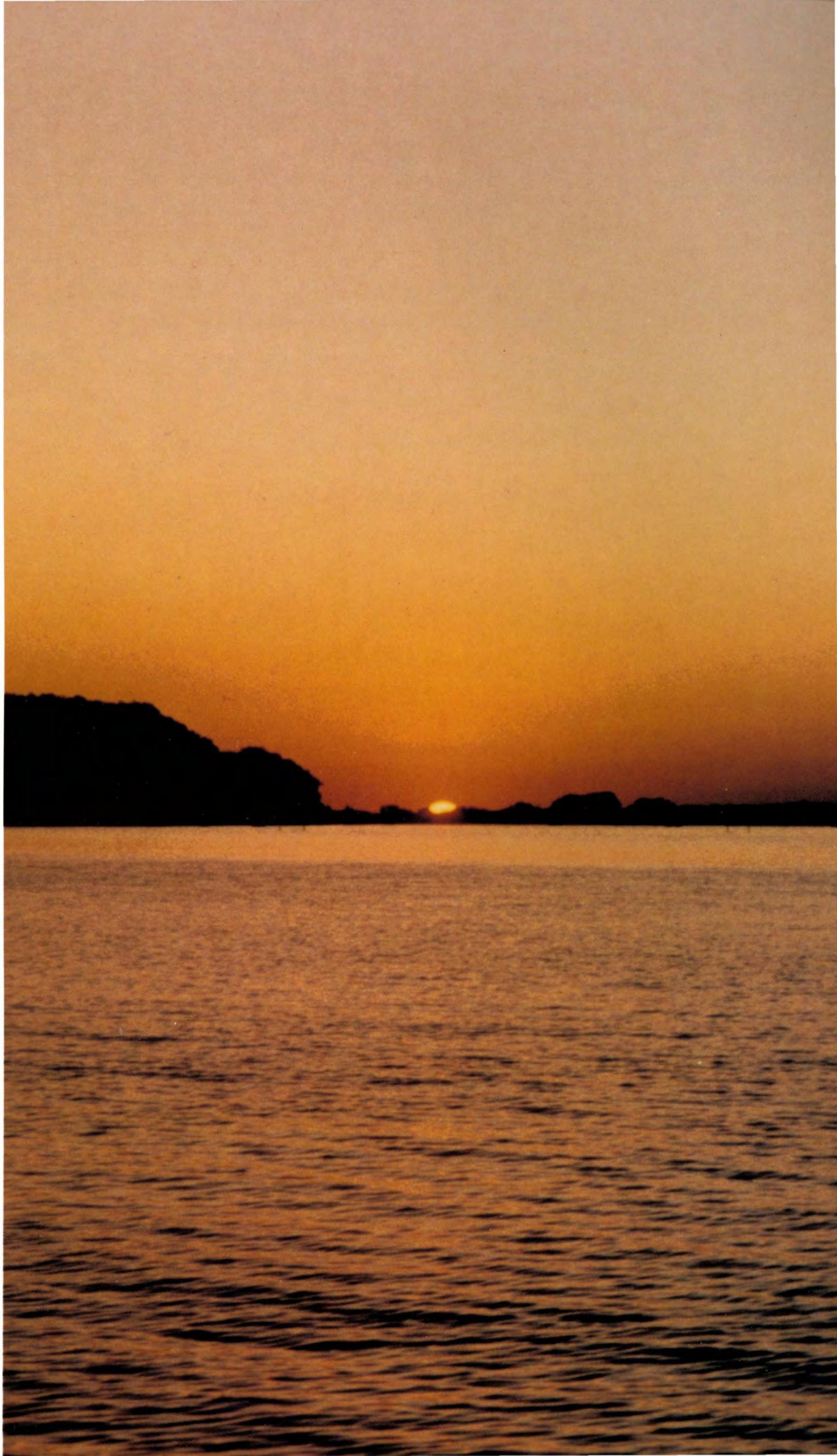
FLOOD OF '93



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## MISSOURI HIGHWAY AND TRANSPORTATION DEPARTMENT

James R. Toft  
District Engineer

CENTRAL DISTRICT: 1511 Missouri Blvd., P.O. Box 718, Jefferson City, MO 65102 (314) 751-3322 Fax (314) 751-8267

To those who care to remember:

When you think of heroes, you seldom picture them in orange hats and vests. But here they are. The men and women of District 5 who fought against the most destructive force we have ever seen. The flood of '93.

Within the pages of this booklet are the faces of determination fighting overwhelming odds. Many of the battles were lost. Or were they? When you finally win the war, is a battle lost of great importance? I would suggest to you as you read this account, that the real battle was our challenge to come together and work as a team. If that is true, this force of nature never had a chance of winning.

As this booklet was put together it was very difficult to choose from the hundreds of available photos. We wanted this account to tell a story so when the years cloud our memory, the story as it really happened can be remembered. The pictures were selected to show what the team accomplished and not any individual effort. To that end none of the players on this team are identified, only the obstacles they faced and how they met the challenge.

I hope this story gives its readers some insight into what these people faced; but of far more importance, what these people accomplished. Someday their great grandchildren may find a dusty copy in someone's attic and they, too, will know.

And through it all, I had the unique privilege to witness and be a part of all that these people did. I was lucky and thankful to have been at the right place at the right time. My thanks to everyone in District 5 will never be enough but somehow I doubt that is important. Their story and what they did is all that is important.

Jim Toft  
District Engineer

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# THE FLOOD OF '93

## Holy Smoke! Didn't It Rain!

The flood of '93 really began as an answer to prayer. Missouri farmers had endured season after season of drought, watching helplessly as corn and beans shriveled and turned to powder. Deep crevices split parched fields into a mosaic of misery. Ground water retreated out of reach of even the thirstiest roots.

And then, in the fall of '92, the blessed rains reappeared. Snow piled up, waiting as late as March of '93 to add its mightiest "Amen!"

As the days lengthened, the rains persisted. By late spring and early summer, "occasional showers" had become "gully-washers" and "frog-stranglers", bent on healing cracked earth and elevating the water table. Iowa and Nebraska were afloat and shared their wealth of water, adding their overflow to Missouri's plenty.

By inches and fractions of inches, the water advanced, swelling creeks, gently rippling across low spots of less traveled roads on its relentless way to the river. But when the landscape was deluged by seven-inch rains, these pastoral scenes became flash floods, sweeping away property and people with equal disdain.

Fortified by millions of gallons of liquid power, the old Missouri River took charge. For generations she had been the butt of jokes, christened the "Big and Muddy" and classified as "too thin to plow, too thick to drink!" For years dredges had accounted for half her traffic, trying gamely to keep her deep enough to float the other half. No more. On her way to join the Mississippi, she was braced for a good, old-fashioned rampage.

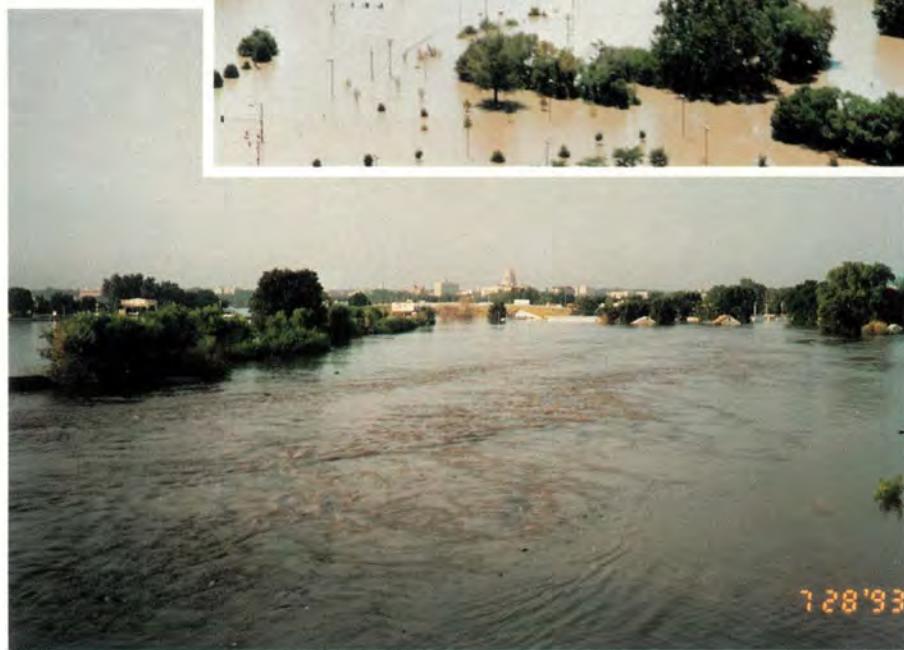
# Stand back ... Here she comes!



Relentlessly, the river staked her claim.

Silently and steadily she crept until she swallowed entire blocks, city streets, parking lots, trees and all. In the flood plain, she tolerated no interference and muscled her way, finally, from bluff to bluff.





Most floods work themselves up to a crest and then slowly retreat. Not the dandy of '93. Months of above normal rainfall had saturated the soil, raising the water table to ground level. Even after the worst seemed to be over, continuing rains could not be absorbed so they simply amplified and extended the river's threats. A chronology of the water's depth at Jefferson City follows a roller coaster pattern.

# Mighty Mo ... Meet Your Match!



The Missouri River and her tributaries were in for a battle. All across the state, MHTD employees had planted their feet and their trucks and their sandbags, as if saying, "Enough is enough!"

Here in Mid-Missouri, the troops were headquartered at District 5. Their equipment was deployed for the greatest impact on the battle to keep highways open and traffic moving safely.

But of far greater significance than equipment was the strength of the people themselves. Their combined know-how, ingenuity, deep commitment, and camaraderie were bolstered by plain, old, horse sense; a winning combination.

Oblivious to crushing fatigue, they battled against relentlessly rising water and current that shoved aside New Jersey medians as if they were match sticks, upended nine-inch concrete pavement slabs, and undermined whole sections of highway that had been built to last for decades.

If MHTD folks had ever doubted the significance of teamwork and the meaning of empowerment, they now were convinced by the solid results of their shoulder-to-shoulder effort. A spirit pulsed through them, every one of them, and magnified their individual accomplishments ... even when the river won, momentarily.



# One For All ...



The watchword was ... "WHATEVER IT TAKES!"  
The tough, they did pronto ... the impossible took a little longer!

Coping with the flood demanded a suspension of "business as usual." There were no eight-hour days. There was no "That's not our job!"



# ... All For One

MHTD District 5 team anticipated each turn of the river's tide and reacted swiftly. They flagged traffic, placed and replaced signs, filled sandbags, answered phones, hauled rock and placed barricades. In desperation, they welcomed innovations such as "water bladder bags." Whatever worked, no matter how weird it seemed at first glance. In the process, they closed and opened sections of roadways, rerouted traffic, assessed damage, planned repairs and answered questions, all the while offering sympathy and consolation to those most gravely affected by the flood.

Those who were not wading around up to their necks in water were also deeply involved. They organized and inspected contracts and contractors, assured quick availability of materials, kept equipment running, cleaned up, helped shoot elevations, pulled plans and ran the radio. They helped do the things those working the flood couldn't get done and were on standby in case anyone needed help.



The MHTD team welcomed the help of fire departments that gamely attempted to pump the rising water off of the highways, back where it belonged, into the swollen river. They were stunned by the volunteers who appeared from nowhere. The Salvation Army and the American Red Cross are geared to help in this kind of situation. And help they certainly did! But other folks simply showed up. They were from communities that had been destroyed, as well as from places that were high and dry. All recognized the enormous effort that was being made on their behalf and came to feed the exhausted and ravenous MHTD teams, encourage them and cheer them on.

# Highway 54 ... A Watery Struggle

The diary of the valiant struggle to hold Highway 54 reads like something from the annals of WWII.

The Moreau River started it. By 9 p.m. on Wednesday, July 7, a seven inch rain had fallen and left Highway 54, south of Jeff City, about a foot under water. Traffic was rerouted until the flood subsided about 7 a.m. on the 8th. This was just a teaser for what was to come. Wears Creek backed up, depositing two feet of water on the Expressway, flooding the state parking lots in one direction and filling Missouri Boulevard to the Highway 54 South ramp in another.



The river advanced on Highway 54 north of the bridges and MHTD crews added life jackets to their normal safety gear. Then they launched into a gigantic struggle to keep the highway open to traffic.

As if adding insult to injury, on July 28, while the rain continued to fall and the surging river, to rise, a propane tank was torn from its bindings and floated around in the swift maelstrom, threatening to explode at the drop of a spark. Crews were warned to "run for your lives" and they did. But back they came to continue the struggle to keep the river from inundating the highway. MHTD crews worked all night against twin threats ... the tank and the rising river. The tank was finally bled into harmlessness and the MHTD team held back over two feet of river for two days. Eventually, however, the river celebrated a temporary victory, in spite of barriers and sandbags wrestled into place along the west shoulders of Highway 54.

The highway was closed in the early evening of July 29 and turned over to the Coast Guard. Nightfall brought with it an overwhelming silence. Earlier there had been the racket of 20 or 30 pumps trying to turn back the river, added to heavy traffic insistent on getting through. Now, suddenly there was quiet. All that moved was the river. Those who were there say it was "eerie." They were not sure what they were scared of but "We found out!" What the river left in her wake a few days later could not have been imagined. Great sections of Highway 54 had been demolished. Access ramps had been torn to pieces. The team went to work.



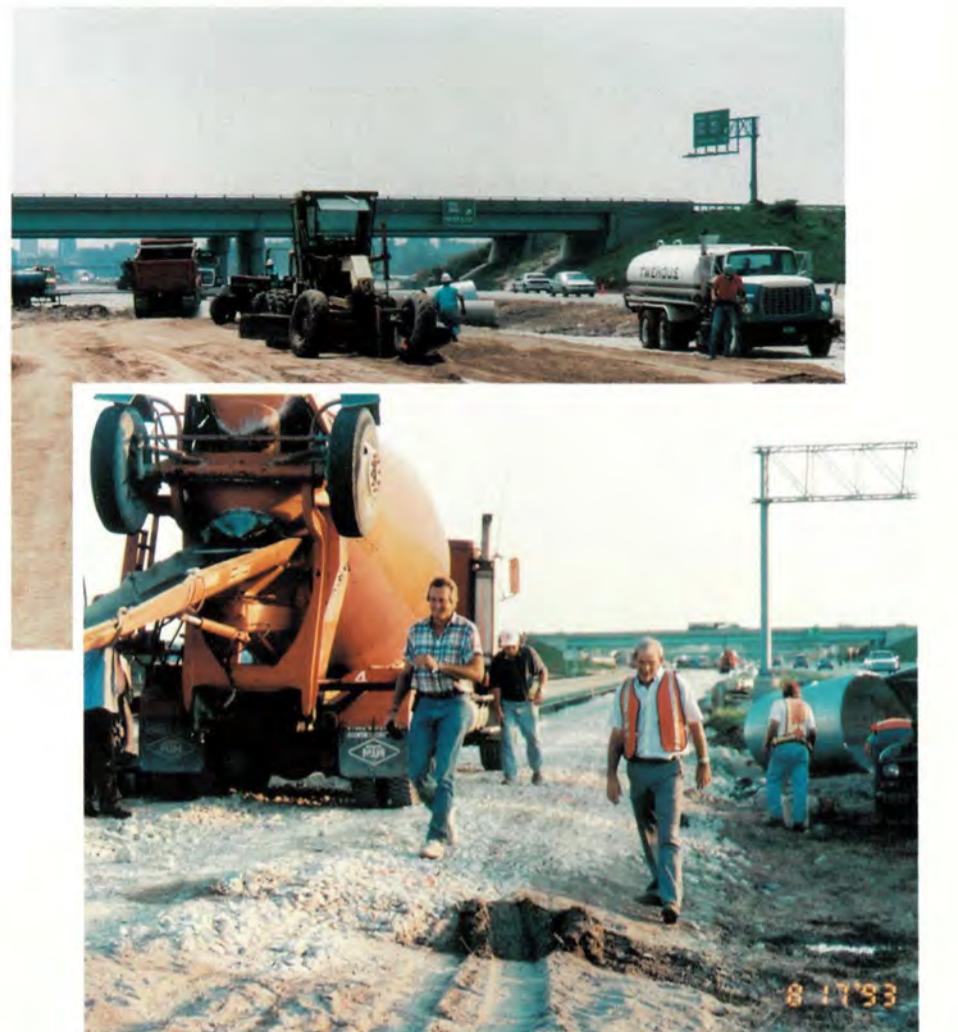
By the morning of August 3rd, traffic was rerouted and two lanes of 54 were reopened to a grateful public. In a day and a night, MHTD crews had moved barriers out of the way, repaired surface damage, cleaned the pavement, built a cross-over and marked the detour that allowed traffic to bypass the section of 54 that no longer existed. Reconstruction began on the east lanes with demolition of what remained after the river had asserted herself.



Fighting a losing battle to hold the line on Highway 54 north of the bridges did not demoralize the MHTD crews. They hitched up their soggy socks and got at it again, with invaluable help from city and county crews working right alongside. Aided and abetted by Headquarters, they were able to suspend some of the cumbersome bidding regs. When some independent truckers complained that they hadn't been given a chance to haul rock, they were told, "Get in line and send us a bill!"

Then it was time for the concrete. What would have been standard operating procedure under normal conditions turned into a test of ingenuity.

It takes sand, dry sand, to make concrete and for miles, sand plants were under water. As luck would have it, the old Missouri had missed one. The only problem was that this high and dry sand pile was surrounded by river and impossible to reach unless a new road could be constructed right through the flood water. And with the help of Jefferson City's Department of Public Works ... it was! Nothing was going to stand in the way of getting this job done!



A paving contract that carried a contractor incentive clause of plus or minus \$2,000 per hour was let in record time. The incentive worked miracles and this major artery was open to traffic again in a stunning 18 days.

As if to add an exclamation point to the major achievement, while Highway 54 was under reconstruction, our MHTD heroes took advantage of having traffic rerouted over the new bridge ... and resurfaced the old one! Now that's making lemonade out of lemons.



# The Highway 63 Battlefield





The battle to save Highway 63 extracted all the best efforts of everyone involved. The river created a deep and turbulent lake over what had been farmland, trucking operations and penitentiary, not to mention four lanes of highway, as far as four-plus miles north of the Jefferson City bridges.

On July 7, with the river at 29 feet, six feet above flood stage at Jefferson City, the south lanes of Highway 63 were inundated and the road closed. By July 15, the river had risen to 34.4 feet and had swamped the upper, northbound lanes of Highway 63.

Reestablishing Highway 63 turned into a giant jigsaw puzzle. The unbelievable current had ripped through homes, businesses, churches, the airport, not to mention highways. It had rearranged the landscape with sheer force and determination and generally created havoc. At Turkey Creek, the current had undermined the roadbed, turning southbound lanes upside down while leaving northbound lanes surprisingly intact but unsupported. Not to worry. As soon as MHTD teams could get to the scene of the devastation, they went to work. First concrete, then lime was pumped under the pavement to stabilize the northbound roadbed. It worked.



# Operation Bootstrap



As the river continued to pour over all four lanes of Highway 63, MHTD crews worked feverishly in the rain for three days. They caught the Missouri River off guard long enough to drive their equipment right up to the spot where the current was tearing up everything in its path, just below the cliffs where the goats live. From there, they took matters into their own hands and conducted "Operation Bootstrap."

Truckers were guided from Turkey Creek to the washout by cones placed to warn them of questionable pavement. Truckload after truckload of rock defied the rampaging river, extending the dry ground just far enough for the next truck to unload. A new, if shaky, roadbed was established, inch by inch, in spite of the current.

Jim Toft suspected his troops might resort to hand-to-hand combat with their watery enemy and counseled, "Don't give 'em scuba gear!" Gradually, they were able to block the water, regain the ground swept away by the river, stabilize the bed, put down a temporary black base, restore a driving surface above the flood and open the upper lanes of Highway 63 to traffic. A minor miracle.

In between flood crests ... and there were several ... when the lower two lanes were temporarily dry, this upper lane battle ground was concreted.

All in all, Highway 63 was closed to traffic just 12 days. The opening called for a great celebration. Families came out to applaud the victory. After all, they had been the support troops at home enabling MHTD crews to pull all of this off without a hitch.



# Meanwhile ... Throughout District 5



While perhaps not as well publicized as the operation around the Missouri River bridges at Jefferson City, with propane tanks adrift and state government stranded, the battles in other parts of District 5 were equally devastating. There was a gigantic fight to save the bridge at Rocheport, the only remaining river crossing open between St. Louis and Kansas City. The river slowly but surely claimed the flood plain and was moving to wipe out access to I-70. MHTD teams were called on the morning of July 29 and by sunrise July 30 had one mile of concrete barriers and one mile of sandbags in place. The barriers held.





The river did not respect MHTD district boundaries, so neither did the MHTD teams. It was a joint effort. Even though "border counties" had about all they could say grace over right at home, they were glad to run to the aid of districts nearby with a more urgent need.

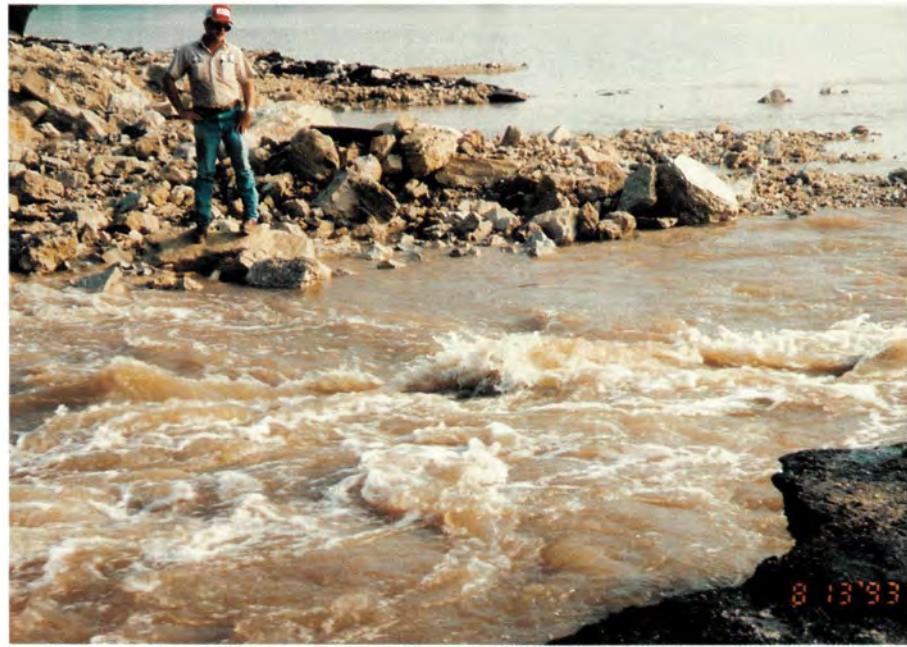
When District 2 was lambasted at Route 40 and Route 87, District 5 folks pitched in to help. Crews from both districts, working side-by-side with folks from "the other side of the river," spanned that time honored border at a time when the river barrier was at its all-time widest. It didn't matter anymore.





Miles from the district office, with roads out in between, MHTD teams in Gasconade and Osage counties were on their own. They came through not just one but two floods with flying colors. The Route 19 roadbed was demolished. Not to worry. Using their ingenuity, reinforced by endless effort and hours, MHTD people from District 5 joined the District 3 team to repair the damaged areas and reopen the road to traffic.





# What's Next?

The fat lady has sung and the flood is over. The old Missouri has returned to her banks with only occasional reminders that she may decide to do it all over again just to prove her point. Most of the repair work is complete, with only a few resurfacing projects left over for the spring of '94.

The pressure is off but the work has just begun. Part of the work will entail picking up the pieces that had to be abandoned during the crisis. Priorities must be revised and promises reaffirmed. Part of the work will be getting back to business as usual ... highway business of filling potholes, striping, mowing, bid letting, snow removal, dealing with contractors and motorists. The south-bound lanes of Highway 63 are to be raised and Highway 54 flood planning and levee repairs are being evaluated.

MHTD is already trying to find ways to avert "the next time." We have learned what damage the mighty Missouri can do when provoked. Now, the highest engineering skills of men and women of this day must be applied to prevent a recurrence of the disaster tomorrow.

Tackling good, solid, credible, normal Highway and Transportation Department work again is the easy part.

The hard part will be remembering. Not just the war stories full of bravery and humor, resourcefulness and endurance. The hard part will be remembering the compelling, expensive, mind-blowing bedrock lesson of the flood. Quality improvement works ... if we let it. It's a matter of trust. To trust the judgment, intelligence, integrity, ingenuity and commitment of those who work with us, those who work for us, and those for whom we work and to be so trustworthy that other's trust will not be wasted on us ... this is the lesson of the Flood of '93 that we cannot afford to forget.

And if the Old Lady has not learned her lesson and goes on another rampage years from now, we can only hope that the employees of the department in that day can match the performance played out in front of a nation which watched and was amazed at the TEAM which produces the best in the worst of times.

History and the Weather Bureau may say the Flood of '93 is over. Don't you believe it! The very real blessings have just begun!



## A Message From The District

As we look back on these pages years from now, we hope those who view the pictures and read the story will be able to see the power of Mother Nature and the dedication and teamwork it took to clean up and put back what the flood left behind.

If you were not there, we hope this publication will give you a historic sense of what happened. If you were a part of the flood control and cleanup effort, we hope this will rekindle the feelings you had during that time.

Indeed, it was a tremendous feeling ... unexplainable. While you were in the middle of it, you could feel the heartbeat of what was going on and feel your heart beating along with the rest.

There were no arguments. There was no "we can't do that" ... no "mine or yours." It was all "ours."

As the sun sets on the flood and we get back to the "routine," these pictures and stories will remind us and others of what took place, but the feeling can only be kept in the hearts of those who experienced it.

